

## A new species of *Paragus* Latreille (Diptera, Syrphidae) from Kenya

by

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### ABSTRACT

A new species, *Paragus stuckenbergi*, is hereby described from the easternmost relict of dry guineo-congolian rain forest in Kenya. It belongs to the subgenus *Pandasyopthalmus*, and its affinities with other species of the subgenus are briefly summarised.

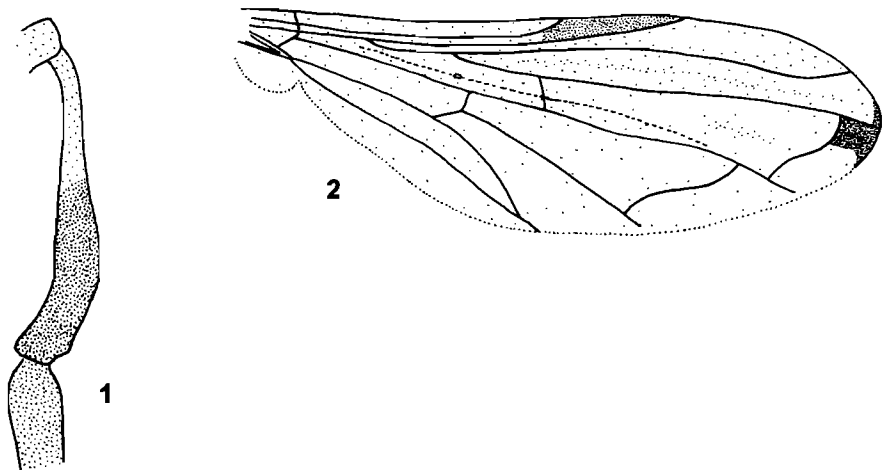
### INTRODUCTION

*Paragus* species are small, dark hoverflies with a flattened yellow face and punctate thorax and abdomen (Stuckenberg 1954a). They belong to the subfamily Syrphinae, tribe Paragini. The larvae are known as predators of aphids, including economic pests, and their bionomics and predator-prey relationships have been studied in some detail (Patro & Behera 1993; Schmutterer 1972 1974).

The afrotropical fauna was thoroughly revised by Stuckenberg (1954a,b). He divided the genus into two subgenera, namely *Paragus s.s.* and *Pandasyopthalmus*, established the identity of all 17 species known from the region, provided identification keys, and discussed intraspecific variation in detail.

Between 1994 and 1995 a diversity study of the syrphid fauna of Kakamega Forest in Western Kenya was conducted within the scope of an Earthwatch project funded by the European Union (De Meyer & De Bruyn 1996). Kakamega Forest is the sole remnant of dry guineo-congolian rain forest in Kenya (Kokwaro 1988). It once formed part of a large tropical rain-forest belt stretching all the way to Congo (formerly Zaïre), but it is now isolated, much reduced in size and seriously threatened by human pressure, especially encroachment and non-sustainable utilisation (Wass 1995; Oyugi 1997). The syrphid fauna in general was found to be very rich and shows some strong affinities with the Ugandan and Central African fauna (De Meyer, in prep). During this study, an undescribed species of *Paragus* was discovered at different localities within the forest, and it is described below. For a detailed description of the vegetation structure of the type locality, refer to Mutangah *et al.* (1992). Latitude-longitude co-ordinates were read in the field with a GPS Garmin 50.

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Figs 1–2. *Paragus stuckenbergi* sp. n., male. 1. Hind tibia, anterior view. 2. Wing.

***Paragus (Pandasyopthalmus) stuckenbergi* sp. n.**

Figs 1–4

Body length: 6.0 (5.8–6.2) mm; wing length 5.35 (5.2–5.6) mm.

**Male:**

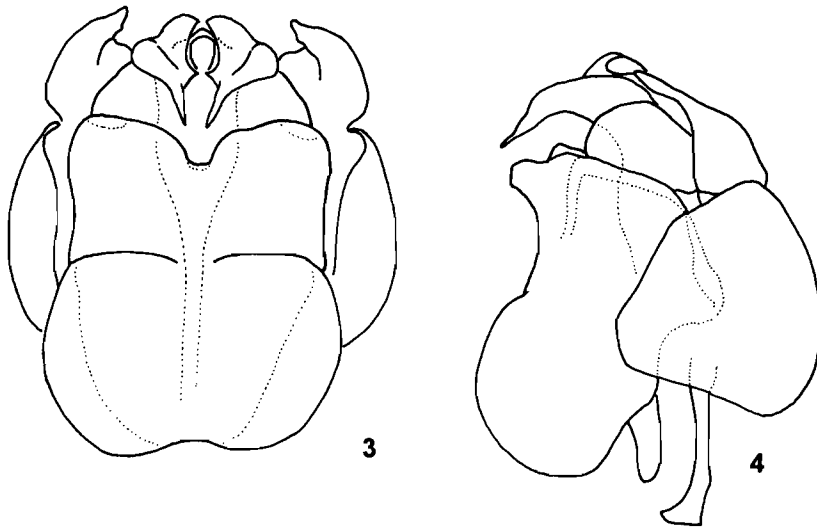
**Head:** Antennal segments dark brown, third segment below and at base and second segment at apex, narrowly reddish-orange; third segment about three times longer than second segment. Face completely whitish-yellow, oral margin somewhat darker yellow. Frons, eyes touching over lower half, upper half with silver-grey pilosity. Eyes with scattered short pale hairs, evenly distributed over surface.

**Thorax:** Mesonotum and scutellum with coarse punctation; shining black except anterior margin of mesonotum with short brown pilosity, partly obscured by occiput; apical margin of scutellum narrowly brownish, with row of poorly developed teeth. Halter white.

**Legs:** Orange-red, except apical fifth of femora and basal half of tibiae whitish; tarsal segments sometimes darker reddish-brown. Hind tibia in apical half thickened and curved as in Fig. 1. Pilosity of legs white.

**Wing:** Venation as in Fig. 2. Pterostigma pale whitish-yellow. Distinct apical spot present below third longitudinal vein and distal to the upper marginal cross-vein. Spurious vein ending before the point of coincidence of lower marginal cross-vein and fourth longitudinal vein. Wings sometimes slightly infuscated.

**Abdomen:** Weakly constricted at segments 2–3. Shining black, except lateral margins of terga 3–5 narrowly reddish-orange; coarsely punctate except along fusion of terga 1 and 2, where smooth. Lateral margin with silvery hairs, especially anteriorly. Epandrium reddish-yellow. Male genitalia as in Figs 3–4.



Figs 3–4. *Paragus stuckenbergi* sp. n., male genitalia. 3. Ventral view. 4. Lateral view.

#### Female:

Resembling male except for following characters: Face with darker yellow median line, but no black stripe. Frons shining black except for silvery spot on lower part. Abdomen with silvery hairs along lateral margins slightly longer, at terga 3–4 continuing partly dorsally along anterior margin. Posterior margin of tergite 4 and postabdominal segments more reddish-orange.

**Material:** Holotype: ♂: KENYA: Western Province, Kakamega Forest, Buyangu Nature Reserve, N 0°20.84' E 34°51.93', 21.xi.1994, leg. Earthwatch team. Paratypes: KENYA: Kakamega Forest: 1 ♀ (designated as allotype), Isecheno Forest station, N 0°14.16' E 34°51.88', 3.xii.1995, leg. Earthwatch team; 1 ♀, same data but 19.i.1995, Earthwatch team 2; 1 ♂, Buyangu Nature Reserve, 15–17.i.1993, leg. M. De Meyer; 1 ♂, Buyangu Nature Reserve, patrol trail, N 0°21.65' E 34°51.81', 24.vi.1995, leg. Earthwatch team; 1 ♂, Ikuywa River, N 0° 12.73' E 34° 55.42', leg. Earthwatch team. All type material is deposited in the National Museums of Kenya collection in Nairobi, except for the Isecheno Forest ♀ paratype, which is in the Natal Museum, Pietermaritzburg, and the Buyangu patrol trail ♂ paratype, which is in the Africamuseum, Tervuren.

**Etymology:** Named in honour of Brian Stuckenberg (Natal Museum, South Africa), who revised the afrotropical representatives of *Paragus*.

#### DISCUSSION

*Paragus stuckenbergi* belongs to the subgenus *Pandasyophthalmus*, based on the pilosity of the eyes being evenly distributed, and only the first two abdominal segments being fused (Stuckenberg 1954a). However, the spurious vein ends before the point of coincidence of the lower marginal cross-vein and the fourth longitudinal

vein, which is characteristic of the subgenus *Paragus* s.s. (Stuckenberg 1954a), although it is here classified under the former subgenus. Within *Pandasyophthalmus*, it belongs to the *longiventris* group as defined by Stuckenberg (1954a). It keys out at *P. minutus* Hull, a very common species found throughout the region, based on similarities like the abdomen being subpetiolate, the postabdomen being reddish, and the femora reddish. It can however be readily differentiated by the presence of the dark apical wing spot, and the shape of the hind tibia which is nearly straight in *minutus*, but apically distinctly curved in *stuckenbergi*.

So far, *P. stuckenbergi* is only reported from Kakamega Forest. A complete review of afrotropical Syrphidae holdings from East Africa (ie. Kenya, Tanzania, Uganda) in the collections of the Natural History Museum, London; the Natal Museum, Pietermaritzburg; The National Museums of Kenya, Nairobi; and The Royal Museum for Central Africa, Tervuren (De Meyer *et al.* 1995 1996), did not reveal any further specimens. Kakamega Forest has three other *Paragus* species: *P. borbonicus* Macquart, *P. longiventris* Loew, and *P. minutus*, with the last-named being the most common.

#### ACKNOWLEDGEMENTS

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